## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 16 June 2005 (16.06,2005)

PCT

English

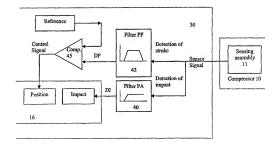
## (10) International Publication Number WO 2005/054676 A1

- (51) International Patent Classification<sup>7</sup>: 49/06
- F04B 35/04,
- (74) Agent: DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA; Caixa Postal 2142, Rua Marquês de Olinda, 70, CEP-22251-040 Rio de Janeiro, RJ (BR).

- (21) International Application Number:
  - PCT/BR2004/000240
- (22) International Filing Date: 2 December 2004 (02.12.2004)
- (25) Filing Language:
- (26) Publication Language: English
- (30) Priority Data: PI0305458-6 5 December 2003 (05.12.2003)
- (71) Applicant (for all designated States except US): EM-PRESA BRASILEIRA DE COMPRESSORES S.A. [BR/BR]; S.A. EMBRACO, Rua Rui Barbosa, 1020, CEP-89219-901 - Joinville-SC (BR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DAINEZ, Paulo, Sérgio [BR/BR], Bloco I, Apartment 302, Rua Rui Barbosa, 1431, CEP- Joinville, SC (BR). BERWANGER, Egddio [BR/BR]; Estrada Blumeau, KM 15, Joinville, SC (BR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GB, GH, GM, HR, HU, JD, H., IN, IS, P, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MM, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TM, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARPIO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurosian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, T, FR, GB, GR, HU, IE, IS, TI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: A FILID PUMP CONTROLLING SYSTEM AND METHOD



(57) Abstract: The present invention relates to a system and to a method of controlling a fluid pump (10), as well as to a linear compressor and a cooler provided with means to calibrate the respective functioning at the time of the first use or in cases of problems caused by electric or mechanical failures. According to the teachings of the present invention, the fluid pump (10) is provided with a piston-position sensing assembly (11), the electronic controller (16) monitoring the piston displacement within the respective Vylinder by detecting an impact signal. The impact is signal is transmitted by the sensing assembly (11) upon occurrence of a impact of the piston with the stroke end, the electronic controller (16) successively incrementing the piston displacement stroke upon a trigger signal as far as the occurrence of the impact to store a maximum value of piston displacement.

## 

## Published:

- with international search report

 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.